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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/475,385	12/30/1999	RANJAN GHOSAL	3600-011-01	6269

7590

12/14/2001

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EXAMINER

LAWRENCE JR, FRANK M

ART UNIT

PAPER NUMBER

1724

DATE MAILED: 12/14/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

8W-8

Office Action Summary	Application N .	Applicant(s)	
	09/475,385	GHOSAL ET AL.	
	Examiner	Art Unit	
	Frank M. Lawrence	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-25 and 38-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18,19,21-25 and 38-48 is/are rejected.
- 7) ☒ Claim(s) 20 and 49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 20 fails to define the variable "y."

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 18, 19, 21, 22 and 38-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Belmont ('739).
5. Belmont ('739) teaches a modified activated carbon that can be used as an adsorbent comprising an organic alkyl or aromatic group attached to the carbon. The organic group can be a hydrophilic (polar) group such as an unsubstituted sulfophenyl salt or a phenyl amine. The organic group can also be substituted as described in instant claims 38-44 (see col. 5, line 44 to col. 7, line 53) and can have an acidic group having a pKa of less than 11.

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6. Claims 18, 19, 22, 23, 24, 38 and 46-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Sutt, Jr. ('281; col. 1, lines 35-44; col. 2, lines 23-31; col. 3, lines 29-38; col. 5, lines 24-43; col. 7, lines 17-37, 53-64; col. 8, lines 5-6; claims 1, 2).

7. Sutt, Jr. ('281) teaches a carbon molecular sieve for selectively adsorbing gases or liquids including oxygen, carbon dioxide, ammonia, argon, methane and hydrogen sulfide, comprising an activated carbon substrate having a polymer impregnated on its surface by a coating process. The polymer can comprise polar alkyl and aromatic groups such as phenols and cyclic polyesters made from alkyl monomers or derivatives such as alkylphenols. More than one polymer may be used and application can be simultaneous or sequential, inherently attaching organic groups to different portions of the substrate.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sutt, Jr. ('281) in view of Tanaka et al. (3,960,771; abstract; col. 4, line 52 to col. 5, line 31).

10. Sutt, Jr. discloses all of the limitations of the claims except that water is the adsorbate. Tanaka et al. ('771) discloses an activated carbon coated with a phenol hydrophilic group for adsorbing water molecules as well as odor causing gasses such as ammonia. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a hydrophilically modified activated carbon material to adsorb water in order to provide an adsorbent that is

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abundant and inexpensive (activated carbon) to separate water vapor molecules from an air stream as well as other pollutants that are typically adsorbed, eliminating the need for a separate desiccant such as silica gel.

Allowable Subject Matter

11. Claims 20 and 49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

12. Applicant's arguments filed November 21, 2001 have been fully considered but they are not persuasive. The amended title has been approved. The cancellation of non-elected claims 28-37 is acknowledged. The objections to the specification and declaration have been withdrawn. Regarding the information disclosure statement, the cited references and documents still have not been reviewed in detail by this examiner. In the event of this application being allowed, all of the references will be considered and the information disclosure statements will be signed and returned to applicants. Also, the cited U.S. Patent Applications will be deleted and substituted with their corresponding U.S. Patent numbers on a PTO 892 form.

13. Regarding the prior art rejection over Belmont ('739), the examiner erroneously cited section (b) of 35 USC 102 but intended to cite section (e). This rejection has been corrected in paragraph 4 above and takes the new amended claims into consideration. Also, the corresponding rejection of claim 20 under 35 USC 103(a) has been withdrawn as being improper.

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14. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the attachment of an organic group to the carbonaceous material by a chemical reaction) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The Sutt, Jr. ('281) does teach a polymeric coating which can contain alkyl and aromatic groups physically attached to the carbon substrate using spraying or contact with a solution of the polymer. The instant specification discloses a method for attachment using a chemical reaction with diazonium salts, however the method is only disclosed as being "preferable" and the instant claims do not recite any limitations that define the method of organic group attachment.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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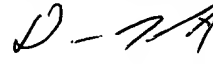
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 703-305-0585. The examiner can normally be reached on Mon-Thurs 7:30-5:00; alternate Fridays 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Simmons can be reached on 703-305-1972. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

fl 
December 11, 2001

DUANE SMITH
PRIMARY EXAMINER


12-12-01